

Subject and Author Index for Volume 28, 1996

- Abies lasiocarpa*, 52–59, 60–64
 Active layer: Moisture content, 300–310; Thermal regime, 274–283; Temperature, 267–273
 Adams, K. E. *See* Krantz, W. B. and Adams, K. E.
 Aerodynamic conductances, 425–434
 Akitaya, E. *See* Ozeki, T. and Akitaya, E.
 Alaska: Avalanche climatology, 502–508; Climate, 509–518; CO₂ efflux, 318–327; Forest soil, 388–400; Glacial geology, 475–487; Holocene glacier history, 42–51; Hydrology, 311–317; Moisture content of active layer, 300–310; Peatland succession, 380–387; Permafrost in forest clearing, 294–299; Permafrost soils, 217–227; Permafrost temperature, 267–273; Riverside toposequence, 363–379; Tundra soil, 414–424
 Alpine: Carabid beetles, 441–447; Eolian sediments, 210–216; Herbivory, 435–440; Insect activity, 196–202; Seed germination, 104–110; Succession, 163–171
 Alps: Genetic diversity of *Polygonum*, 190–195; Treeline fluctuations, 131–147
 Altitudinal variation: Lichens, 111–117; Seed germination, 104–110
 Alyeska, 502–508
 Ammann, B. *See* Tinner, W., et al.
 Andersen, B. G. *See* Heusser, C. J., et al.
 Anderson, P. M., Lozhkin, A. V. and Brubaker, L. B. (A Lacustrine Pollen Record from North Priokhot'ya: New Information about Late Quaternary Vegetational Variations in Western Beringia), 93–98
 Andes: Climate fluctuations, 496–501
 Andrews, J. T. and Freeman, W. (The Measurement of Sediment Color Using the Colortron® Spectrophotometer), 524–528
 Arctic Ocean: Birds, 118–122
 Arctic: Climate, 509–518; CO₂ efflux, 318–327; Genetic diversity of *Polygonum*, 190–195; Hydrology, 311–317, 318–327; Ice sheet erosion, 466–474; Moisture content of active layer, 300–310; Nitrogen cycling, 85–92; Permafrost, 254–256; Permafrost temperature, 267–273, 274–283; Pingo, 352–362; Polar desert vegetation, 156–162; Reproductive biology of *Pedicularis*, 403–413; Riverside vegetation toposequence, 363–379; Soil development, 352–362; Soils, 254–256, 257–266; Tundra soil, 414–424; Tundra watershed, 339–345; Tussock tundra, 346–351; Vegetation, 254–256
 Avalanche climatology, 502–508
 Avalanche, snow, 25–34
Azolla filiculoides, 148–155
 Bauert, M. R. (Genetic Diversity and Ecotypic Differentiation in Arctic and Alpine Populations of *Polygonum viviparum*), 190–195
 Beetles, 441–447
 Begét, J. E. *See* Motyka, R. J. and Begét, J. E.
 Bégin, Y. *See* Lepage, H. and Bégin, Y.
 Bergman, P., Molau, U., and Holmgren, B. (Micrometeorological Impacts on Insect Activity and Plant Reproductive Success in an Alpine Environment, Swedish Lapland), 196–202
 Beringia, 93–98
 Biogeochemical cycling, 339–345
 Biomass, 203–206, 318–327, 363–379
 Birch, 425–434
 Birds: Arctic, 118–122
 Birkeland, P. W. *See* Walker, M. D., et al.
 Blumer, P. and Diemer, M. (The Occurrence and Consequences of Grasshopper Herbivory in an Alpine Grassland, Swiss Central Alps), 435–440
 Böcher, J. *See* Philipp, M., et al.
 Bog succession, 1–9, 172–183
 Book Reviews
Arctic Oceanography: Marginal Ice Zones and Continental Shelves. Edited by W. O. Smith and J. M. Grebmeier. J. T. Andrews, 402
Cold Climate Landforms. edited by D. J. A. Evans. N. Caine, 124–125
Dating In Exposed and Surface Contexts. Edited by C. Beck. R. F. Madole, 249–250
Drift Exploration in the Canadian Cordillera. Edited by T. Bobrowsky et al., J. T. Andrews, 532
Effects of Burning and Grazing on a Colombian Paramo Ecosystem. By R. G. M. Hofstede. F. L. Pérez, 125–126
Herds of the Tundra: A Portrait of Saami Reindeer Pastoralism. By Robert Paine. M. Anderson, 250–251
Inuit, Glimpses of an Arctic Past. by D. Morrison and G.-H. Germain. S. K. Short, 532
Mountain Research in Europe: An Overview of MAB Research from the Pyrenees to Siberia. By M. F. Price. T. Seastedt, 250
Mountain Environments & Geographic Information Systems. Edited by M. F. Price and D. I. Heywood. D. Cline, 123–124
Pleistocene Environments in the British Isles. By R. L. Jones and K. H. Keen. J. T. Hollin, 529–531
Pleistocene History of the Lower Thames Valley. By P. L. Gibbard. J. T. Hollin, 529–531
Quaternary of the Thames. By D. R. Bridgland. J. T. Hollin, 529–531
The Firecracker Boys. By D. O'Neill. M. Andrews, 401–402
The Ice Age History of Alaskan National Parks. By S. A. Elias. D. Mann, 401
Tropical Alpine Environments: Plant Form and Function. Edited by P. W. Rundel, et al.
Greenland Lichens. By E. S. Hansen. F. L. Pérez, 126–127
 Borrow pits, 163–171
 Bristlecone pine, 65–76
 British Columbia: Avalanche, 25–34; Neoglaciation, 10–24
 Brooks, J. R. *See* Kuuluvainen, T., et al.
 Brown, J. and Tedrow, J. C. F. (Historical Developments of Polar Pedology and the Major Contributions of Kaye Ronald Everett), 257–266.
 Brown, J. *See also* Hinkel K. M., et al.
 Brubaker, L. B. *See* Anderson, P. M., et al.
 Brunstein, F. C. (Climatic Significance of the Bristlecone Pine Latewood Frost-ring Record at Almagre Mountain, Colorado, U.S.A.), 65–76
 Bumblebees, 196–202
 Burenina, T. A. *See* Onuchin, A. A. and Burenina, T. A.
 Butterflies, 196–202
 Carabid beetles, 441–447
 Carbon balance, 318–327
 Carbon store, 414–424
 Carbon-dioxide efflux, 318–327
 Chapin, D. M. (Nitrogen Mineralization, Nitrification, and Denitrification in a High Arctic Lowland Ecosystem, Devon Island, N.W.T., Canada), 85–92
 Cheng, W. *See* Oberbauer, S. F., et al.
 Chile: Paleoenvironment, 148–155
 Chronosequence, 172–183, 352–362

- Clague, J. J. and Mathewes, R. W. (Neoglaciation, Glacier-dammed Lakes, and Vegetation Change in Northwestern British Columbia, Canada), 10–24
- Climate change, 52–59, 448–465
- Climate history: Rocky Mountains, 65–76
- Climate: Eurasia, 99–103; Iceland, 237–243; Northern Alaska, 509–518; Simulated change, 203–209
- Climax vegetation, 1–9
- Colorado: Bristlecone pine, 65–76; Climate, 65–76
- Cryoturbation, 414–424
- Dahms, D. E. and Rawlins, C. L. (A Two-Year Record of Eolian Sedimentation in the Wind River Range, Wyoming, U.S.A.), 210–216
- Dating, 475–487
- David K. Swanson, D. K. (Susceptibility of Permafrost Soils to Deep Thaw after Forest Fires in Interior Alaska, U.S.A., and Some Ecologic Implications), 217–227
- de Scally, F. A. (Avalanche Snow Melting and Summer Streamflow Differences between High-elevation Basins, Cascade Mountains, British Columbia, Canada), 25–34
- Decomposition, 346–351
- Deglaciation: Chile, 148–155
- Dendrochronology, 65–76, 77–84, 184–189
- Denitrification, 85–92
- Denton, G. H. *See* Heusser, C. J., et al.
- Disturbance, 163–171
- Douglas, T. D. and Harrison, S. (Turf-banked Terraces in Oraefi, Southeast Iceland: Morphometry, Rates of Movement, and Environmental Controls), 228–236
- Dust: Accumulation in Wind River Range, 210–216; Effect on tussock tundra, 346–351
- Dyrness, C. T. *See* Van Cleve, et al.
- Ecology: Bog succession, 1–9; Climax vegetation, 1–9; Natural revegetation, 163–171; Polar desert, 156–162; Toposequence, 363–379; Tree establishment, 52–59; Vegetation sampling, 156–162
- Ecosystem: Response to climate change, 203–209; State factor control, 388–400
- Ecotypic differentiation, 190–195
- Ecuador: Climate fluctuations, 496–501
- Elemental mobility, 339–345
- Enzyme activity, 346–351
- Eolian sediments, 210–216
- Erosion, 466–474
- Eurasia: Snow density dynamics, 99–103
- Everett, K. R.: Contribution to polar pedology, 257–266
- Everett, K. R.: Special issue, 254–400
- Everett, K. R. *See also* Hinkel K. M., et al.; Moorhead, D. L., et al.; Walker, M. D., et al.
- Experimental studies of frost heave, 284–293
- Extracellular enzyme activity, 346–351
- Fertilization, 339–345, 363–379
- Fire, 217–227
- Flora: Greenland, 111–117
- Floral induction, 190–195
- Forest fire, 217–227
- Forest succession, 388–400
- Freeman, W. *See* Andrews, J. T. and Freeman, W.
- Frost-heave model, 284–293
- Frozen ground, 237–243; 300–310
- Fruit set, 403–413
- Gebauer, R. *See* Oberbauer, S. F., et al.
- Genetic diversity, 190–195
- Geobotanical mapping, 257–266
- Geochemistry, 352–362
- Germann, P. *See* Tinner, W., et al.
- Germination of *Polygonum*, 104–110
- Giblin, A. E. *See* Shaver, G. R., et al.
- Gillespie, C. T. *See* Oberbauer, S. F., et al.
- Glacial erosion, 466–474
- Glacial geology, 475–487
- Glacier advances, 496–501
- Glacier history, 42–51
- Glaciology, 35–41; 42–51
- Grasshoppers, 435–440
- Grazing, 435–440
- Greenland: Lichens, 111–117; *Pedicularis*, 403–413
- Ground-penetrating radar, 488–495
- Hall, F. R. (The Composite Correlation of Cores and Revised Oxygen-Isotope Stratigraphy Based on the Whole-Core Magnetic Susceptibility Logs [ODP Site 645, Baffin Bay]), 519–523
- Hansen, E. S. (Vertical Distribution of Lichens on the Mountain, Aucellabjerg, Northeastern Greenland), 111–117
- Harper, K. A. and Kershaw, G. P. (Natural Revegetation on Borrow Pits and Vehicle Tracks in Shrub Tundra, 48 Years Following Construction of the CANOL No. 1 Pipeline, N.W.T., Canada), 163–171
- Harrison, S. *See* Douglas, T. D. and Harrison, S.
- Hättestrand, C. and Stroeve, A. P. (Field Evidence for Wet-based Ice Sheet Erosion from the South-central Queen Elizabeth Islands, Northwest Territories, Canada), 466–474
- Hauser, A. *See* Heusser, C. J., et al.
- Heine, J. T. *See* Heine, K.
- Heine, K. and Heine, J. T. (Late Glacial Climatic Fluctuations in Ecuador: Glacier Retreat during Younger Dryas Time), 496–501
- Heusser, C. J., Denton, G. H., Hauser, A., Andersen, B. G., and Lowell, T. V. (Water Fern (*Azolla filiculoides* Lam.) in Southern Chile as an Index of Paleoenvironment during Early Deglaciation), 148–155
- Hinkel, K. M., Nelson, F. E., Shur, Y., Brown, J., and Everett, K. R. (Temporal Changes in Moisture Content of the Active Layer and Near-Surface Permafrost at Barrow, Alaska, U.S.A.: 1962–1994), 300–310
- Hinkel, K. M. *See also* Nicholas, J. R. J. and Hinkel, K. M.; Outcalt, S. I. and Hinkel, K. M.
- Hinzman, L. D. *See* Rovaneck, R. J., et al.
- Hollin, J. T. (Review Essay: *Pleistocene Environments in the British Isles* by R. L. Jones and D. H. Keen; *Pleistocene History of the Lower Thames Valley* by Philip L. Gibbard; *Quaternary of the Thames* by D. R. Bridgland), 529–531
- Holmgren, B., Ovsted, M., and Karlsson, P. S. (Measuring and Modeling Stomatal and Aerodynamic Conductances of Mountain Birch: Implications for Treeline Dynamics), 425–434
- Holmgren, B. *See* Bergman, P., et al.
- Holocene glacier fluctuations, 42–51
- Holocene treeline: Swiss Alps, 131–147
- Hudson Bay Lowland, 172–183
- Hughes, T. (Can Ice Sheets Trigger Abrupt Climatic Change?), 448–465
- Hydrology: Arctic Coastal Plain, 311–317; Model, 318–327
- Hydrosere, 1–9
- Ice core, 35–41
- Ice lens, 284–293
- Ice sheet, 448–465, 466–474
- Ice: Sun crust, 244–248
- Iceland: Frozen ground, 237–243; Turf-banked terraces, 228–236
- Insect activity, 196–202
- Japan: Carabid beetles, 441–447; Germination of *Polygonum*, 104–110; Sun crust, 244–248

- Kane, D. L. *See* Rovaneck, R. J., et al.
 Karlsson, P. S. *See* Holmgren, B., et al.
 Kaufman, D. S. *See* Stilwell, K. B., et al.
 Kershaw, G. P. *See* Harper, K. A. and Kershaw, G. P.
 Kimble, J. M. *See* Michaelson, G. J., et al.
 Klinger, L. F. (Coupling of Soils and Vegetation in Peatland Succession), 380–387
 Klinger, L. F. (The Myth of the Classic Hydrosere Model of Bog Succession), 1–9
 Klinger, L. F. and Short, S. K. (Succession in the Hudson Bay Lowland, Northern Ontario, Canada), 172–183
 Klusman, R. W. *See* Naftz, D. L., et al.
 Krantz, W. B. and Adams, K. E. (Application of a Fully Predictive Model for Secondary Frost Heave), 284–293
 Kuuluvainen, T., Sprugel, D. G., and Brooks, J. R. (Hydraulic Architecture and Structure of *Abies lasiocarpa* Seedlings in Three Subalpine Meadows of Different Moisture Status in the Eastern Olympic Mountains, Washington, U.S.A.), 60–64
- Lake level, 77–84
 Lake shore disturbance, 77–84
 Landscape development, 352–362
 Landscape pattern, 318–327
 Late glacial, 496–501
 Late Wisconsin glaciation, 475–487
 Latewood frost-ring record, 65–76
 Laundre, J. A. *See* Shaver, G. R., et al.
 Lauritsen, T. *See* Lønne, I. and Lauritsen, T.
 Lepage, H. and Bégin, Y. (Tree-ring Dating of Extreme Water Level Events at Lake Bienville, Subarctic Québec, Canada), 77–84
 Levesque, E. (Minimum Area and Cover-Abundance Scales as Applied to Polar Desert Vegetation), 156–162
 Lichen: Vertical distribution in Greenland, 111–117
 Light ring (tree), 184–189
 Linkins, A. E. *See* Moorhead, D. L., et al.
 Little Ice Age, 10–24, 35–41, 65–76
 Lønne, I. and Lauritsen, T. (The Architecture of a Modern Push-moraine at Svalbard as Inferred from Ground-penetrating Radar Measurements), 488–495
 Lowell, T. V. *See* Heusser, C. J., et al.
 Lozhkin, A. V. *See* Anderson, P. M., et al.
- Magnetic susceptibility, 519–523
 Marion, G. M. (Elemental Mobility through Small Tundra Watersheds), 339–345
 Masuzawa, T. *See* Nishitani, S. and Masuzawa, T.
 Mathewes, R. W. *See* Clague, J. J. and Mathewes, R. W.
 Mattsson, O. *See* Philipp, M., et al.
 McConnaughey, E. A. *See* Naftz, D. L., et al.
 Michaelson, G. J., Ping, C. L., and Kimble, J. M. (Carbon Storage and Distribution in Tundra Soils of Arctic Alaska, U.S.A.), 414–424
 Michel, R. L. *See* Naftz, D. L., et al.
 Micrometeorology, 196–202
 Mineral weathering, 339–345
 Mire. *See* Bog
 Mock, C. J. (Avalanche Climatology of Alyeska, Alaska, U.S.A.), 502–508
 Modeling: Hydrological processes, 318–327; Ice sheet, 448–465; Road dust effect, 346–351; Secondary frost heave, 284–293
 Molau, U. *See* Bergman, P., et al.
 Moorhead, D. L., Linkins, A. E., and Everett, K. R. (Road Dust Alters Extracellular Enzyme Activities in Tussock Tundra Soils, Alaska, U.S.A.), 346–351
 Moraine architecture, 488–495
 Motyka, R. J. and Begét, J. E. (Taku Glacier, Southeast Alaska, U.S.A.: Late Holocene History of a Tidewater Glacier), 42–51
- Nadelhoffer, K. J. *See* Shaver, G. R., et al.
 Naftz, D. L., Klusman, R. W., Michel, R. L., Schuster, P. F., Reddy, M. M., Taylor, H. E., Yanosky, T. M., and McConnaughey, E. A. (Little Ice Age Evidence from a South-Central North American Ice Core, U.S.A.), 35–41
 Natural revegetation, 163–171
 Nelson, F. E. *See* Hinkel, K. M., et al.
 Neoglaciation: British Columbia, 10–24
 Nicholas, J. R. J. and Hinkel, K. M. (Concurrent Permafrost Aggradation and Degradation Induced by Forest Clearing, Central Alaska, U.S.A.), 294–299
 Nishitani, S. and Masuzawa, T. (Germination Characteristics of Two Species of *Polygonum* in Relation to Their Altitudinal Distribution on Mt. Fuji, Japan), 104–110
 Nitrification, 85–92
 Nitrogen cycling, 85–92, 435–440
 Nitrogen mineralization, 85–92
 North Pole: Birds, 118–122
- Oberbauer, S. F., Gillespie, C. T., Cheng, W., Sala, A., Gebauer, R., and Tenhunen, J. D. (Diurnal and Seasonal Patterns of Ecosystem CO₂ Efflux from Upland Tundra in the Foothills of the Brooks Range, Alaska, U.S.A.), 328–338
 Onuchin, A. A. and Burenina, T. A. (Climatic and Geographic Patterns in Snow Density Dynamics, Northern Eurasia), 99–103
 Ostendorf, B. (Modeling the Influence of Hydrological Processes on Spatial and Temporal Patterns of CO₂ Soil Efflux from an Arctic Tundra Catchment), 318–327
 Osterkamp, T. E. and Romanovsky, V. E. (Characteristics of Changing Permafrost Temperatures in the Alaskan Arctic, U.S.A.), 267–273
 Osterkamp, T. E. *See* Zhang, T., et al.
 Outcalt, S. I. and Hinkel, K. M. (The Response of Near-Surface Permafrost to Seasonal Regime Transitions in Tundra Terrain), 274–283
 Ovhed, M. *See* Holmgren, B., et al.
 Oxygen-isotope stratigraphy, 519–523
 Ozeki, T. and Akitaya, E. (Field Observations of Sun Crust Formation in Hokkaido, Japan), 244–248
- Paleoclimate, 10–24, 35–41
 Paleoeocology, 10–24, 172–183
 Paleoenvironment: Chile, 148–155
 Paleovegetation, 93–98
 Palynology, 93–98
 Peatland succession, 1–9, 172–183, 380–387
Pedicularis, 403–413
 Pedology, 257–266
 Periglacial landforms, 228–236
 Permafrost, 217–227, 254–256; Aggradation, 294–299; Degradation, 294–299; Moisture content, 300–310; Soil carbon store, 414–424; Temperature, 267–273, 274–283; Temporal changes, 300–310
 Peterson, D. L. *See* Rochefort, R. M. and Peterson, D. L.
 Philipp, M., Woodell, S. R. I., Böcher, J., and Mattsson, O. (Reproductive Biology of Four Species of *Pedicularis* (Scrophulariaceae) in West Greenland), 403–413
Picea glauca, 184–189
 Ping, C. L. *See* Michaelson, G. J., et al.
 Pingo age, 352–362
 Plant macrofossil analysis, 131–147
 Plant reproduction, 196–202, reproduction, 403–413
 Polar desert, 156–162
 Polar regions: Pedology, 257–266
 Pollen analysis, 10–24, 131–147
 Pollen record, 93–98
 Pollination, 196–202, 403–413
Polygonum: Genetic diversity, 190–195; Germination, 104–110

- Precipitation, 509–518
Primary production, 363–379
- Quaternary climate change, 448–465
Quaternary vegetation, 93–98
Queen Elizabeth Islands, 466–474
- Radiocarbon dating, 10–24, 42–51
Rawlins, C. L. *See* Dahms, D. E. and Rawlins, C. L.
Reddy, M. M. *See* Naftz, D. L., et al.
Reproductive biology of *Pedicularis*, 403–413
Rochefort, R. M. and Peterson, D. L. (Temporal and Spatial Distribution of Trees in Subalpine Meadows of Mount Rainier National Park, Washington, U.S.A.), 52–59
Romanovsky, V. E. *See* Osterkamp, T. E. and Romanovsky, V. E.
Rovansek, R. J., Hinzman, L. D., and Kane, D. L. (Hydrology of a Tundra Wetland Complex on the Alaskan Arctic Coastal Plain, U.S.A.), 311–317
- Sala, A. *See* Oberbauer, S. F., et al.
Schuster, P. F. *See* Naftz, D. L., et al.
Sediment color, 524–528
Sediment magnetism, 519–523
Seed dormancy, 104–110
Seed germination, 104–110
Seedling establishment, 60–64
Shaver, G. R., Laundre, J. A., Giblin, A. E., and Nadelhoffer, K. J. (Changes in Live Plant Biomass, Primary Production, and Species Composition along a Riverside Toposequence in Arctic Alaska, U.S.A.), 363–379
Short, S. K. *See* Klinger, L. F. and Short, S. K.
Shur, Y. *See* Hinkel, K. M., et al.
Siberia: Palynology, 93–98
Snow: Avalanche, 25–34, 502–508; Cover, 99–103, 509–518; Density, 99–103; Ice layer, 244–248
Snowmelt runoff, 25–34, 311–317
Soil science, 257–266
Soil: Arctic, 245–256; Arctic pedology, 257–266; Antarctic pedology, 257–266; Carbon, 318–327; CO₂ efflux, 318–327; Development, 352–362; Forest, 388–400; Freezing, 284–293; Interior Alaska, 388–400; Moisture, 300–310; Movement, 228–236; Peatland succession, 380–387; Profile, 131–147; Respiration, 318–327; Susceptibility to thaw, 217–227; Swiss Alps, 131–147; Tussock tundra, 346–351
Sota, T. (Altitudinal Variation in Life Cycles of Carabid Beetles: Life-cycle Strategy and Colonization in Alpine Zones), 441–447
Species composition: Arctic, 363–379
Species diversity, 156–162
Spectrophotometer, 524–528
Sprugel, D. G. *See* Kuuluvainen, T., et al.
Stable isotopes, 35–41, 85–92
Stammes, K. *See* Zhang, T., et al.
State factor control, 388–400
Stilwell, K. B. and Kaufman, D. S. (Late Wisconsin Glacial History of the Northern Alaska Peninsula, Southwestern Alaska, U.S.A.), 475–487
Stomatal conductances, 425–434
Stratigraphy: Ocean core, 519–523, 524–528
Stroeven, A. P. *See* Hättestrand, C. and Stroeven, A. P.
Subalpine: Trees, 52–59, 60–64
Subarctic: Dendrochronology, 77–84; Insect activity, 196–202
Succession: Bog and peatland, 1–9, 172–183, 380–397; Disturbance, 163–171; Forest, 388–400
Sun crust, 244–248
- Svalbard: Moraine architecture
Sweden: Plant reproductive success in Lapland, 196–202; Treeline dynamics, 425–434
Swiss Alps: Grasshopper herbivory, 435–440; Soils, 131–147; Treeline fluctuations, 131–147
Synoptic climatology, 502–508
Szeicz, J. M. (White Spruce Light Rings in Northwestern Canada), 184–189
- Taiga, 388–400
Taku Glacier, 42–51
Taylor, H. E. *See* Naftz, D. L., et al.
Tedrow, J. C. F. *See* Brown, J. and Tedrow, J. C. F.
Tenhunen, J. D. *See* Oberbauer, S. F., et al.
Thermal regime in active layer, 274–283
Thorhallsdottir, T. E. (Seasonal and Annual Dynamics of Frozen Ground in the Central Highland of Iceland), 237–243
Tibet: Alpine tundra, 203–209
Tinner, W., Ammann, B., and Germann, P. (Treeline Fluctuations Recorded for 12,500 Years by Soil Profiles, Pollen, and Plant Macrofossils in the Central Swiss Alps), 131–147
Toposequence, 363–379
Tree: Establishment, 52–59; Growth form, 77–84; Hydraulic architecture and structure, 60–64; rings, 184–189
Tree-ring dating, 65–76, 77–84
Treeline: Dynamics, 425–434; Swiss Alps, 131–147
Tundra: CO₂ efflux, 318–327; Ecosystem, 339–345; Response to climate change, 203–209; Shrub, 163–171; Soil, 414–424; Tussock soils, 346–351; Watershed, 339–345
Turf-banked terraces, 228–236
- Van Cleve, K., Viereck, L. A., and Dyrness, C. T. (State Factor Control of Soils and Forest Succession along the Tanana River in Interior Alaska, U.S.A.), 388–400
Vegetation, 254–256; Peatland succession, 380–387; Sampling, 156–162; Toposequence, 363–379
Vehicle tracks, 163–171
Viereck, L. A. *See* Van Cleve, et al.
Vuilleumier, F. (Birds Observed in the Arctic Ocean to the North Pole), 118–122
- Walker, D. A. *See* Walker, M. D., et al.
Walker, M. D. (Arctic Permafrost and Soils: Introduction), 254–256
Walker, M. D., Everett, K. R., Walker, D. A., and Birkeland, P. W. (Soil Development as an Indicator of Relative Pingo Age, Northern Alaska, U.S.A.), 352–362
Washington: Tree establishment, Mount Rainier, 52–59; Tree seedlings, Olympic Mountains, 60–64
Water balance: Wetland, 311–317
Welker, J. M. *See* Zhang, Y. and Welker, J. M.
Wetland: Arctic Coastal Plain, 311–317
Woodell, S. R. I. *See* Philipp, M., et al.
Wyoming: Dust in Wind River Range, 210–216; Ice core, 35–41
- Yanosky, T. M. *See* Naftz, D. L., et al.
Younger Dryas, 496–501
- Zhang, T., Osterkamp, T. E., and Stammes, K. (Some Characteristics of the Climate in Northern Alaska, U.S.A.), 509–518
Zhang, Y. and Welker, J. M. (Tibetan Alpine Tundra Responses to Simulated Changes in Climate: Aboveground Biomass and Community Responses), 203–209

